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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/875,138	06/07/2001	Hiroyuki Miyake	209069US2	7670

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EXAMINER

TRAN, NHAN T

ART UNIT PAPER NUMBER

2615

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/875,138

Applicant(s)

MIYAKE ET AL.

Examiner

Nhan T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4 and 6-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4 and 6-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 4, 6-17 have been considered but are moot in view of the new grounds of rejection.

Claim Objections

2. Claim 1 is objected to because of the limitation "said lens mount" in line 11 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 7, 9, 10, 13, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (US 5,940,126) in view of Fujita Kazutomo (JP 07-184102).

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Regarding claim 1, Kimura discloses an image apparatus, comprising:

an image pick-up device (120 or 520) having a light-receiving surface (see Figs. 1 & 5; col. 2, lines 56-63 or col. 5, lines 35-45 *and it is noted that either one of two different embodiments is applied in claim*);

a first image forming lens (111 or 5R) for forming as an image on said light-receiving surface a first light entering from a first direction toward said light-receiving surface, the first image forming lens forming an image on a first light region of the light-receiving surface;

a second image forming lens (112 or 5L) for forming as an image on said light-receiving surface a second light entering from a second direction different from said first direction toward said light-receiving surface, the second forming lens forming an image on a second light region of the light-receiving surface as shown in Figs. 1-3 & 5 (also note that a convergence angle of each of the lens in the second embodiment shown in Fig. 5 & col. 5, lines 35-45 indicates the first and second light coming from different directions);

light region separating means (141, 152 shown in Fig. 3A or a lower portion of central separator shown in Fig. 5) provided between the first and second light regions;

optical means (113 or 51R, 51L) for changing a direction of travel of at least one of said first light and said second light to a direction perpendicular to said light-receiving surface; and

a lens mount (102 or 500 including upper portion of the central separator) for holding said optical means and having said first and second image forming lenses mounted thereto (see Figs. 1-3 & 5; col. 2, lines 39-67 and col. 5, lines 35-45).

Although Kimura discloses light region separating means as a lower portion of the central separator as shown in **Fig. 5**, Kimura does not explicitly disclose that the light region separating

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means is molded integrally with a lens mount (i.e., upper portion of the central separator) as a single element. As taught by Fujita in Fig. 3, a light region separating means (41a) is integrally structured with a lens mount to form a single element. Such a structure would be advantageous in providing a strong support of the light region separating means of an optical system for an imaging device.

Therefore, it would have been obvious to one of ordinary skill in the art to integrally mold the light region separating means with the lens mount in Kimura as a single element to provide a stronger support of the light region separating means.

Regarding claim 7, Kimura is silent about the first and second image forming lenses being disposed such that the first and second light regions are located diagonally relative to each other on the light-receiving surface. However, it is obvious that arrangements of light regions are varied depending on each imaging application. Apparently taught by Fujita, the light regions (14a) may be arranged as shown in Fig. 17 such that one light region is located diagonally relative to another light region on the surface of image sensor 14 in an obvious design variation.

Therefore, it would have been obvious to one of ordinary skill in the art to recognize a plurality of possible arrangements of the light regions on the light receiving surface, depending on a specific need in each imaging application, to implement the first and second light regions to be located diagonally relative to each other on the light receiving surface as one of obvious design variations.

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Regarding claim 9, inherently disclosed by Kimura is that the lens mount (500) is formed of a material having a light blocking characteristic in order for the image pick-up apparatus to form an image of a subject properly as disclosed since if the lens mount was not made of a light shield material, the image of the subject would not be formed properly due to light interference from other outside light beams which must be avoided.

Regarding claim 10, it is apparent in Figs. 1 or 5 that the lens mount forms a seal structure for inhibiting intrusion of foreign substance onto the light-receiving surface from outside together with the first and second image forming lenses.

Regarding claim 13, it is also apparent in Fig. 5 that the image-pickup device (520) is abutted against and fixed to the lens mount, and a reference plane (a horizontal plane) for allowing at least one of the first and second forming lenses to form an image on the light receiving surface is formed in a portion (e.g., a portion limited within the horizontal plane and the lens mount) where the image pickup device abuts against the lens mount.

Regarding claim 16, see the analysis of claims 1 & 7.

4. Claims 4, 6, 8, 14 & 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura and Fujita Kazutomo as applied to claim 1 and in further view of Lee (EP 1 104 181 A2).

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Regarding claim 4, Kimura and Fujita do not specifically disclose a translucent plate for blocking at least one of infrared light and ultraviolet light on the light-receiving surface, wherein the light region separating means is fixed to the translucent plate. As taught by Lee, a translucent plate (Figs. 11B & 13B) is integrated in an imaging device package to obtain satisfactory frequency characteristic and remove unnecessary light components such as infrared light (IR) or ultraviolet light (UV) (see Figs. 11B & 13B; col. 11, [0033] and col. 12, [0036]).

Therefore, it would have been obvious to one of ordinary skill in the art to further modify the image pick-up apparatus in Kimura by including an integrated translucent plate that is fixed to both the light-receiving surface of the image pick-up device and the light region separating means so as to improve image quality by removing unnecessary IR or UV lights.

Regarding claim 6, Kimura, Fujita and Lee do not explicitly disclose that the translucent plate is divided so as to sandwich the light region separating means therebetween. However, such an arrangement of the translucent plate of IR or UV to sandwich the light region separating means would be made in an alternative configuration when the image pick-up apparatus in Kimura being modified to include the translucent plate on top of the image sensor 520 for filtering IR or UV lights. The translucent plate would be divided to sandwich the light separating means therebetween during such modification.

Therefore, it would have been obvious to one skilled in the art to arrange the translucent plate on top of each left and right portion of the light receiving surface of the image pick-up device (see Fig. 5 in Kimura) that would sandwich the light region separating means in an alternative arrangement of the optical elements.

Regarding claim 8, see the analysis of claim 4 and note that the translucent plate of IR or UV is fixed into both the light receiving surface and the light region separating means which is integrally formed with the lens mount. Therefore, the combination of Kimura, Fujita and Lee would also meet that the translucent plate is incorporated into the lens mount by abutting the translucent plate against an abutting portion provided on the lens mount (see Fig. 5 in Kimura).

Regarding claim 14, see the analyses of claims 1 & 4. It is clearly seen in the combination of Kimura, Fujita and Lee that the lens mount and the image pick-up device are connected via a frame-like component and the frame-like component has a divider portion for dividing optical paths from the first and second image forming lenses and has a transparent plate for blocking at least one of infrared light and ultraviolet light in each of the optical paths divided by the divider portion (refer to Fig. 5 in Kimura in view of Fujita and Lee).

Regarding claim 17, see the analysis of claim 8.

5. Claims 11 & 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura and Fujita Kazutomo as applied to claim 1 in view of Lee (EP 1 104 181 A2) and in further view of Tsuchida Hirobumi (JP 2000-004386).

Regarding claim 11, see the analysis of claim 4 for the combination for a translucent plate for blocking at least one of infrared light and ultraviolet light on the light-receiving surface in

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view of Lee. Kimura further discloses a reservoir portion at each end of the imaging pick-up device 520 for fixing the imaging pick-up device to the lens mount as shown in Fig. 5. However, the combination of Kimura, Fujita and Lee does not disclose that the translucent plate integrated on the top of the imaging pick-up device is fixed to the lens mount by providing an adhesive to the reservoir portion.

Tsuchida teaches an adhesive is provided at a reservoir portion (26) for fixing an imaging pick-up device (60) to a lens mount (20) (see Abstract and Fig. 5).

Therefore, it would have been obvious to one of ordinary skill in the art to recognize that an adhesive would be provided at a reservoir portion of the lens mount for fixing the imaging pick-up device including the integrated translucent plate to the lens mount so that a secured structure of an image pick-up apparatus would be realized.

Regarding claim 12, Kimura shows in Fig. 5 that the lens mount includes a taper portion at the central part of the imaging apparatus. The taper portion is formed such that it separates optical path from the first and second image forming lenses in a vicinity of the light-receiving surface. Kimura does not show that the taper portion has an opening end that becomes larger toward the light-receiving surface. Tsuchida teaches a well-known practice for a lens mount portion (20) to be configured in a taper shape such that the taper portion has an opening end becoming larger toward an image pick-up device for electrical circuits/components of the image pick-up device to be incorporated with the lens mount safely and easily during manufacturing the imaging apparatus.

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6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura and Fujita Kazutomo as applied to claim 1 and in further view of Robb (US 6,177,950).

Regarding claim 15, Kimura teaches the image pick-up apparatus being a small video camera incorporated in an endoscope that is capable to capture a plurality of objects from different angles through different lenses. Kimura fails to teach a portable telephone incorporating such the video camera.

Robb teaches a multifunctional portable telephone incorporating a small video camera (2) that is also capable to capture a plurality of objects from different directions through different lenses (see Figs. 1 & 6; Abstract; col. 3, line 48 – col. 4, line 9; col. 10, lines 33-40).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the image pick-up apparatus in Kimura into a portable telephone to capture a plurality of objects from different view angles through different lenses so that a multifunctional portable telephone would be realized.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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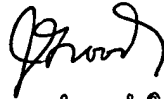
MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (571) 272-7371. The examiner can normally be reached on Monday - Thursday, 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Groody can be reached on (571) 272-7950. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NT.


James J. Groody
Supervisory Patent Examiner
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